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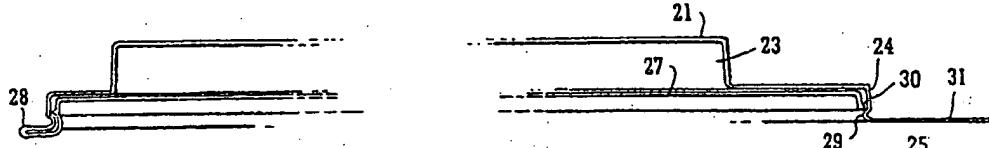
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— with international search report
— before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: A BLISTER PACK



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(57) Abstract: A blister pack of a translucent plastics material and having a recessed front part (21) for receiving and containing an article to be packaged, and a back part (22) having a relieved portion for insertion into a recessed portion (23) of the front part for closure of the pack. The front part (21) has a plinth (24) with an inwardly projecting ridge (29), and back part (22) forms a plinth (27) having an outwardly projecting lip (30) which becomes inter-engaged with the ridge (29) to lie wholly within the plinth (24) of the first part (21) thus to be largely inaccessible and thus prevent premature opening of the pack. The front part (21) has a surrounding flange (25) with a formation (31) which gives the appearance of a weld thus to deter attempts to open the pack prematurely.

A BLISTER PACK

THIS INVENTION concerns blister packs which are packaging items produced usually in transparent or translucent plastics materials and vacuum formed from a single sheet of such material to provide a front part usually recessed for receiving and containing an article to be packaged and displayed, and a back part to act as a closure. The two parts are usually connected together by a hinge portion which is integral with the front and back parts and which allows the parts to be closed after insertion of the article to be packaged.

Blister packs fall into two main types one of which is produced such that after packaging of the article, the front and back parts are thermally welded together so that to open the package it is necessary to cut within the weld line to enable the parts to be separated. This type of pack is generally used when it is not intended for the article to be removed from the pack until after purchase, but it is more expensive in production and packaging and is sometimes considered to be inconvenient in that the contents must be inserted during production of the pack, and cannot be inspected properly without destroying the pack.

The other type of blister pack is one where the front and back parts are opened and closed by way of a friction or snap fit usually provided by means of co-operating detent means between the front and back parts. This type is much less expensive to produce and has the advantage that the contents may be inserted and removed (and reinserted) without destroying the pack.

Most blister packs include, on at least one of the parts, an outer flange which at one end of the pack has an aperture for suspending the pack along with other similar packs on a display hook. In the case of the non-welded type of pack the front and back parts generally have such flanges which lie in superimposed relationship when the pack is closed and enable insertion of a finger or tool between the flanges to enable opening the pack.

Many users of such packs prefer a welded pack to prevent tampering with or premature removal of the packaged articles, but the additional cost of such packaging often outweighs the advantages of increased security.

It is an object of the present invention to provide a blister pack which possesses the cost advantage of a non-welded pack but which

is more difficult to open than the conventional non-welded pack, and yet affords the appearance of a welded pack thus rendering it less obviously capable of being opened prior to purchase of the contained article or articles.

According to the present invention, there is provided a blister pack comprising a front part having a recessed portion for receiving and containing an article to be packaged, a back part having a relieved portion adapted for insertion into the recessed portion of the front part for closure of the pack, and co-operating locating means on the front and back parts respectively to maintain the pack in a closed condition; characterised in that the locating means comprises an abutment on the inner wall surface of the recessed portion of the front part, and a co-operating abutment on the outer wall surface of the relieved portion of the back part, the inner and outer wall abutments being located thereon such that they become inter-engaged to close the pack only when the back part is contained wholly within the recessed portion of the front part.

The front part may have a flange extending around the rim of the recessed portion.

The flange may include an aperture for suspension of the blister pack upon a display hook.

The flange may include a peripheral formation to provide the appearance of a weld.

The abutment of the front part may comprise a continuous ridge protruding inwardly from the wall surface of the recessed portion.

The abutment of the back part may comprise a continuous narrow flange protruding outwardly from the relieved portion.

The front and back parts of the pack may be connected together with an integral hinge portion, the entire pack being formed by deformation of a single sheet of translucent plastics material.

The front part on its inner or outer surface may have a surface texture to render the front part translucent with reduced transparency.

An embodiment of the invention will now be described, by way of example only, with reference to the accompanying drawings, in which:-

Fig. 1 is a vertical cross-sectional view of a conventional blister pack of the kind with which this invention is concerned;

Fig. 2 is a similar view of a blister pack made in accordance with the invention;

and Fig. 3 is a perspective view of the pack of Fig. 2 in an open condition.

Referring to Fig. 1, a conventional blister pack comprises front and back parts 10 and 11 respectively vacuum formed from a single sheet of plastics material, usually transparent or at least translucent and connected together by an integral hinge portion 12.

The front part 10 is recessed at 13 to receive an article to be packaged and has a stepped recess 14 forming a plinth 15 around the recessed portion 13, and a peripheral flange 16 which usually will contain

an aperture (not shown) for suspending the pack on a display hook or the like.

The back part 11 also has a shallow recessed portion 17 forming an inner plinth 18 which fits closely within the outer plinth 15 of the recessed front part when the pack is closed. One or more detent means 19 co-operating between the front and back parts 10 and 11 are provided to maintain the pack in a closed condition allowing it to be opened and closed with a snap action.

The back part 11 also has a flange 20 which lies in superimposed relationship with the flange 16 when the pack is closed and provides access between the two flanges for opening the pack.

Referring now to Fig. 2, a blister pack made in accordance with the invention again consists of front and back parts 21 and 22 respectively, the front part again having a recessed portion 23 for containment of the article to be packaged. As in the case of the conventional pack the front part has a stepped recess forming a plinth 24 and an outer flange 25 extending peripherally around the plinth 24. An aperture 26 (Fig. 3) known as a EUROSLOT is provided at one end of the pack to enable its suspension on a display hook.

The back part 22 has a relieved plinth 27, and an integral hinged portion 28 connects the front and back parts 21 and 22 together.

In this case, and in accordance with the invention, the plinth 24 on the front part 21 includes an inwardly projecting abutment in the form of a ridge 29 which extends around the rearmost part of the recess within the plinth 24, and forms one part of a locating means for closure of the pack.

Also as can be seen from Fig. 2, the relieved plinth 27 of the back part 22 has at its outermost extremity a narrow flange or lip 30 which when the pack is closed forms a snap-action with the ridge 29 of the front part and is contained forward of the latter so that the back part 22 is contained wholly within the front part 21. It is thus extremely difficult to open the pack without considerable distortion of the front part to enable the rim 30 to be forced outwardly past the ridge 29. In other words, no part of the back part 22 of the pack is accessible exteriorly of the pack as opposed to the accessible flange 20 of the back part 11 of the conventional pack illustrated in Fig. 1.

Thus, the pack made in accordance with the invention is easy to close but difficult to open, and this is achieved without welding of

the two parts together, so that the pack may be filled by an end user rather than by the pack manufacturer.

Referring now to Fig. 3 where such a pack is shown in an open condition, it will be seen that around the perimeter of the flange 25 of the front part 21 there is a "mock weld" in the form of a formation or projecting ridge 31 thus to give the appearance of a welded pack which serves to deter attempts to open such a pack before purchase.

If required, the front part 21 may, in its formation, be given an outer and/or inner surface texture thus to reduce its transparency and provide a "matt" finish.

Typically, a pack made in accordance with the invention will have a plinth 24 of some 8mm in depth with the ridge 29 extending some 2mm into the plinth, and the plinth 27 of the back part may be some 6mm in depth with the lip 30 extending outwardly therefrom by approximately 1mm all around its perimeter. The hinged portion 28 is of sufficient flexibility to enable the back part 22 to be fully inserted into the front part 21 to produce a secure pack in which the method of closure is difficult to detect.

The parts 21 and 22 of the pack may be reversed in role so that the part 22 becomes the front of the pack for display of the packaged article or articles.

CLAIMS

1. A blister pack comprising a front part having a recessed portion for receiving and containing an article to be packaged, a back part having a relieved portion adapted for insertion into the recessed portion of the front part for closure of the pack, and co-operating locating means on the front and back parts respectively to maintain the pack in a closed condition; characterised in that the locating means comprises an abutment on the inner wall surface of the recessed portion of the front part, and a co-operating abutment on the outer wall surface of the relieved portion of the back part, the inner and outer wall abutments being located thereon such that they become inter-engaged to close the pack only when the back part is contained wholly within the recessed portion of the front part.
2. A blister pack according to Claim 1, wherein the front part has a flange extending around the rim of the recessed portion.
3. A blister pack according to Claim 2, wherein the flange includes an aperture for suspension of the blister pack upon a display hook.

4. A blister pack according to Claim 2 or Claim 3, wherein the flange includes a peripheral formation to provide the appearance of a weld.
5. A blister pack according to any preceding claim, wherein the abutment of the front part comprises a continuous ridge protruding inwardly from the wall surface of the recessed portion.
6. A blister pack according to any preceding claim, wherein the abutment of the back part comprises a continuous narrow flange protruding outwardly from the relieved portion.
7. A blister pack according to any preceding claim, wherein the front and back parts of the pack are connected together by an integral hinged portion, the entire pack being formed by deformation of a single sheet of translucent plastics material.
8. A blister pack according to any preceding claim, wherein the front part, on its inner or outer surface, has a surface texture to render the front part translucent with reduced transparency.

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9. A blister pack according to Claim 1, wherein the front part has a stepped recess forming a plinth with an outer flange extending peripherally around the plinth.
10. A blister pack according to any preceding claim, wherein the respective abutments of the front and back parts become inter-engaged with a snap action when the pack is closed.
11. A blister pack according to Claims 5 and 6, wherein the abutment on the inner wall surface of the recessed portion of the front part extends from said wall surface to a greater extent than that by which the abutment of the relieved portion of the back part extends from the outer wall surface thereof.

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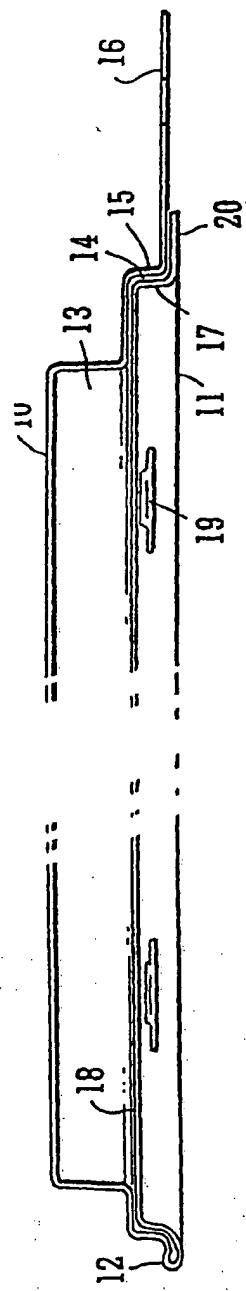


FIG. 1
PRIOR ART

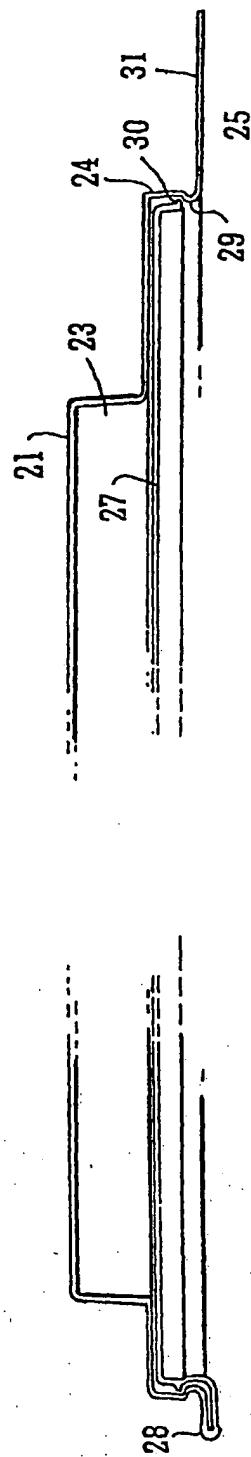
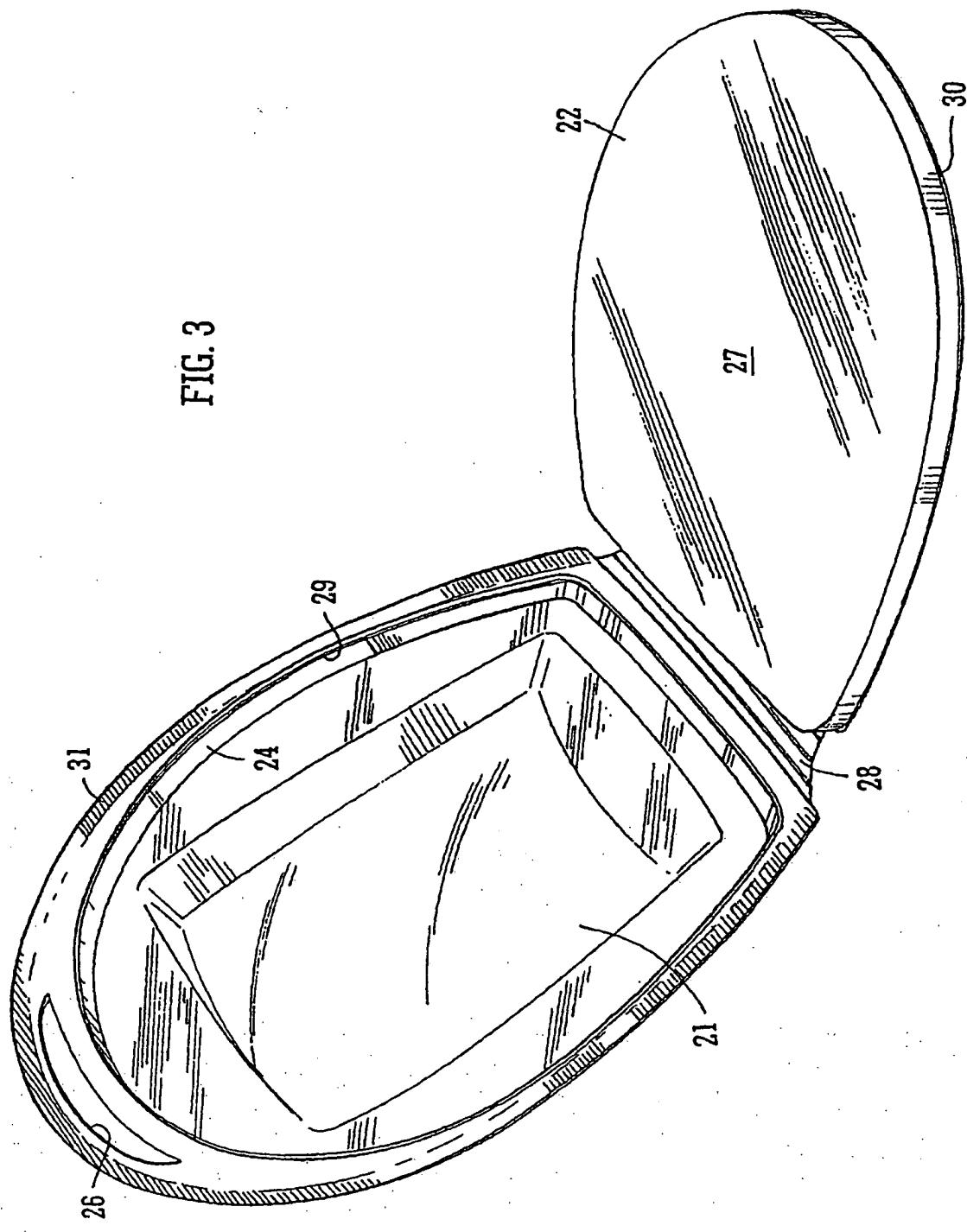


FIG. 2

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FIG. 3



INTERNATIONAL SEARCH REPORT

International Application No

PCT/GB 02/03408

A. CLASSIFICATION OF SUBJECT MATTER

IPC 7 B65D43/16

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 B65D

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	EP 0 857 661 A (BAKER MARTIN JOSEPH ;MORLEY TERENCE COLIN (GB)) 12 August 1998 (1998-08-12) figures 1-5	1
A	US 5 209 354 A (ISAMINGER CAROL J ET AL) 11 May 1993 (1993-05-11) the whole document	1
A	DE 19 23 177 A (HUEBNER ERICH) 19 November 1970 (1970-11-19) figures	1
A	US 5 383 568 A (JOHNSON KENT D ET AL) 24 January 1995 (1995-01-24) figures 1,5	1

 Further documents are listed in the continuation of box C. Patent family members are listed in annex.

* Special categories of cited documents:

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Date of the actual completion of the international search

Date of mailing of the international search report

18 December 2002

08/01/2003

Name and mailing address of the ISA

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Spettel, J.

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 02 April 2003 (02.04.03)

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 27 July 2001 (27.07.01)

Applicant

ALPHA PACKAGING & DESIGN LIMITED et al

1. The applicant is hereby informed that the International Bureau has, according to Article 31(7), notified each of the following Offices of its election:

EP :AT,BE,BG,CH,CY,CZ,DE,DK,EE,ES,FI,FR,GB,GR,IE,IT,LU,MC,NL,PT,SE,SK,TR
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2. The following Offices have waived the requirement for the notification of their election; the notification will be sent to them by the International Bureau only upon their request:

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 ZA,ZM,ZW

3. The applicant is reminded that he must enter the "national phase" before the expiration of 30 months from the priority date before each of the Offices listed above. This must be done by paying the national fee(s) and furnishing, if prescribed, a translation of the international application (Article 39(1)(a)), as well as, where applicable, by furnishing a translation of any annexes of the international preliminary examination report (Article 36(3)(b) and Rule 74.1).

Some offices have fixed time limits expiring later than the above-mentioned time limit. For detailed information about the applicable time limits and the acts to be performed upon entry into the national phase before a particular Office, see Volume II of the PCT Applicant's Guide.

The entry into the European regional phase is postponed until 31 months from the priority date for all States designated for the purposes of obtaining a European patent.

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 1211 Geneva 20, Switzerland

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Authorized officer:

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PATENT COOPERATION TREATY

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INTERNATIONAL PRELIMINARY EXAMINING AUTHORITY

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NOTIFICATION OF RECEIPT OF DEMAND BY COMPETENT INTERNATIONAL PRELIMINARY EXAMINING AUTHORITY

(PCT Rules 59.3(c) and 61.1(b), first sentence
and Administrative Instructions, Section 601(a))

Date of mailing
(day/month/year) 21-03-2003

Applicant's or agent's file reference
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IMPORTANT NOTIFICATION

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24/07/2002

Priority date (day/month/year)
27/07/2001

Applicant

ALPHA PACKAGING & DESIGN LIMITED

1. The applicant is hereby **notified** that this International Preliminary Examining Authority considers the following date as the date of receipt of the demand for international preliminary examination of the international application:

20/02/2003

2. This date of receipt is:

the actual date of receipt of the demand by this Authority (Rule 61.1(b)).
 the actual date of receipt of the demand on behalf of this Authority (Rule 59.3(e)).
 the date on which this Authority has, in response to the invitation to correct defects in the demand (Form PCT/IPEA/404), received the required corrections.

3. **ATTENTION:** That date of receipt is AFTER the expiration of 19 months from the priority date. Consequently, the election(s) made in the demand does (do) not have the effect of postponing the entry into the national phase until 30 months from the priority date (or later in some Offices) (Article 39(1)). Therefore, the acts for entry into the national phase must be performed within 20 months from the priority date (or later in some Offices) (Article 22). For details, see the *PCT Applicant's Guide*, Volume II.

(If applicable) This notification confirms the information given by telephone, facsimile transmission or in person on:

4. Only where paragraph 3 applies, a copy of this notification has been sent to the International Bureau.

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